REMARKS

The Examiner's last office action had rejected claims 1-5 and 7-20. To simply the Examination and presentation of the invention, Claims 7, 8 and 15-17 have been cancelled. Claims 1-5, 9-14 and 18-20 remain pending in the present application. Claims 1, 18, 19 and 20 are the only remaining independent claims. All of the dependent claims now ultimately depend from claim 1.

CLAIM REJECTIONS

Rejections Under 35 USC § 103

The Examiner had rejected claims 1-5, 7 and 12-18 under 35 U.S.C. 103(a) as being unpatentable over **Jones** et al. in view of **Ramachandran**, further in view of **Partyka**, further in view of **Morun** (US 5,566,807), further in view of **Deaville** et al (US 5,791,449) and still further in view of **Katou** et al. (US 2004/0182677 A1). The Examiner had also rejected claims 19 and 20 under 35 U.S.C. 103(a) as being unpatentable over **Jones** et al. in view of **Ramachandran**, further in view of **Partyka**, further in view of **Morun**, further in view of **Deaville** et al (US 5,791,449) further in view of **Katou et al.** and still further in view of **Pope** (US 2002/0195309).

Applicant maintains that the Examiner's proposed combination was improper and misplaced in view of the underlying concept of the application, directed to an improvement or modification to vending machines. As against the claimed invention, the Examiner has maintained and continues to maintain that patents for Automated Transaction Machines, commonly known as ATM's, such as the **Jones** (for an Automated Document Processing System) and **Ramachandran**, (entitled "Automated Transaction Machine") are effectively machines that vend money thus they are like the vending machines of the claims and that they may be modified by selecting specific concepts from various secondary references to compile a device according to the claimed invention. It is respectively submitted that where the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, the proposed modification would not have been obvious. *See Tec Air Inc. v Denso Mfg. Michigan Inc.*, 192 F.3d 1353, 1360 (Fed. Cir. 1999); *In re Gordon*, 733 F.2d 900, 902 (Fed. Cir. 1984). "A reference may be said to teach away when a person of ordinary skill, upon [examining] the reference, would be discouraged from following the path set out in the reference,

or would be led in a direction divergent from the path that was taken by the applicant." *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). Persons skilled in the art would not take the **Jones** reference directed to a high speed full image bill counting device and start tinkering with it to make it suitable for use in a vending machine dispensing sodas or candy.

Notwithstanding, the Examiner's persistence in this argument and Applicant's equal persistence in countering the argument is not advancing the prosecution. Accordingly, to unequivocally vitiate the Examiner's contentions, Applicant has amended independent claims 1, 18, 19 and 20 to add limitations which are clearly not taught, described, or suggested or remotely contemplated in the art of the Examiners cited combinations which utilize as the primary reference the **Jones** Automated Teller Machine. In addition, Applicant has taken the opportunity to clean up the format of the claims to place them in amore practical format. In this regard, Applicant's invention as now more clearly claimed herein was directed to modifying the operation of vending machines by replacing the known bill validators with a bill acceptor-dispenser so as to allow dispensing of bills as change and to allow acceptance of higher denominations of bills. Applicant's recognized, however, that in doing so the imbedded programming limitations of the vending machine controller, which operates according to a specific industry protocol, would need to be circumvented. Thus, the bill acceptor-dispenser of the Applicant's invention, in addition to both accepting and dispensing bills, also assumes control over the change dispense function. Applicants seek to accomplish the desirable benefits of the invention without replacing the entire vending machine. Accordingly, claim 1 has been amended to reflect the anticipated commercial embodiment while very clearly distinguishing the prior art.

Specifically, independent claim 1, as well as the independent claims 18, 19 and 20, have all been amended to provided that the vending machine controller to control the operation of the vending machine based on a standardized vending machine protocol program is limited in that the protocol program allows the vending machine to receive at most a five dollar denomination bill and provide coins as change to complete any vending transaction, not bills as change. In addition, the claim 1 also now provides that the processor of the bill acceptor-dispenser has a program receiving as an input a signal from said validator indicative of the actual denomination of the note received and a signal from the vending machine controller indicative of the amount of change to be dispensed as coins by said coin acceptor/changer, the processor determines the

amount of change to be dispensed as coins and the amount to be dispensed as paper currency and outputs a control signal indicative of the notes to be dispensed by the bill acceptor-dispenser which controls the disbursement of currency and a signal to the coin acceptor/changer indicative of the amount of coins to be dispensed for the completion of a vending transaction. A generally similar limitation has been included in the other independent claims 18 and 19.

Claim 1 also provides that the processor communicating with the vending machine controller provides a signal indicative of a five dollar note to the vending machine controller upon receipt of a note having a denomination greater than five dollars. This sending of a reduced denomination signal by a note acceptor to a host device is not contemplated in any of the Examiner's prior art combinations.

With the foregoing revised intended concept of the invention for which protection is sought in mind, Applicant's provide the following **Discussion of the Prior Art:**

Jones – the primary reference

Jones (US Pat. No. 6,363,164) titled "Automated Document Processing System Using Full Image Scanning" describes a document processing system in which the document validating function is carried out using full image scanning. As described in the Abstract of Jones:

> "A transport mechanism receives the documents from the input receptacle and transports the documents past a full image scanner and a discrimination unit. An output receptacle receives the documents from the transport mechanism after being transported past the full image scanner and the discrimination unit. The full image scanner includes means for obtaining a full video image of said documents, means for obtaining a image of a selected area of said documents, and means for obtaining information contained in said selected area of said document. The discrimination unit includes means for determining the authenticity of said document. A system controller directs the flows of documents over the transport mechanism."

See **Jones** Abstract. **Jones** describes a transaction system having a validator including a coin hopper 63 and coin dispenser 62 and means for calculating the total of the coins/currency to be dispensed. **Jones** at 79:1-31. Fig. 1b (of 64 figures) of **Jones** depicting the entire device is reproduced below:
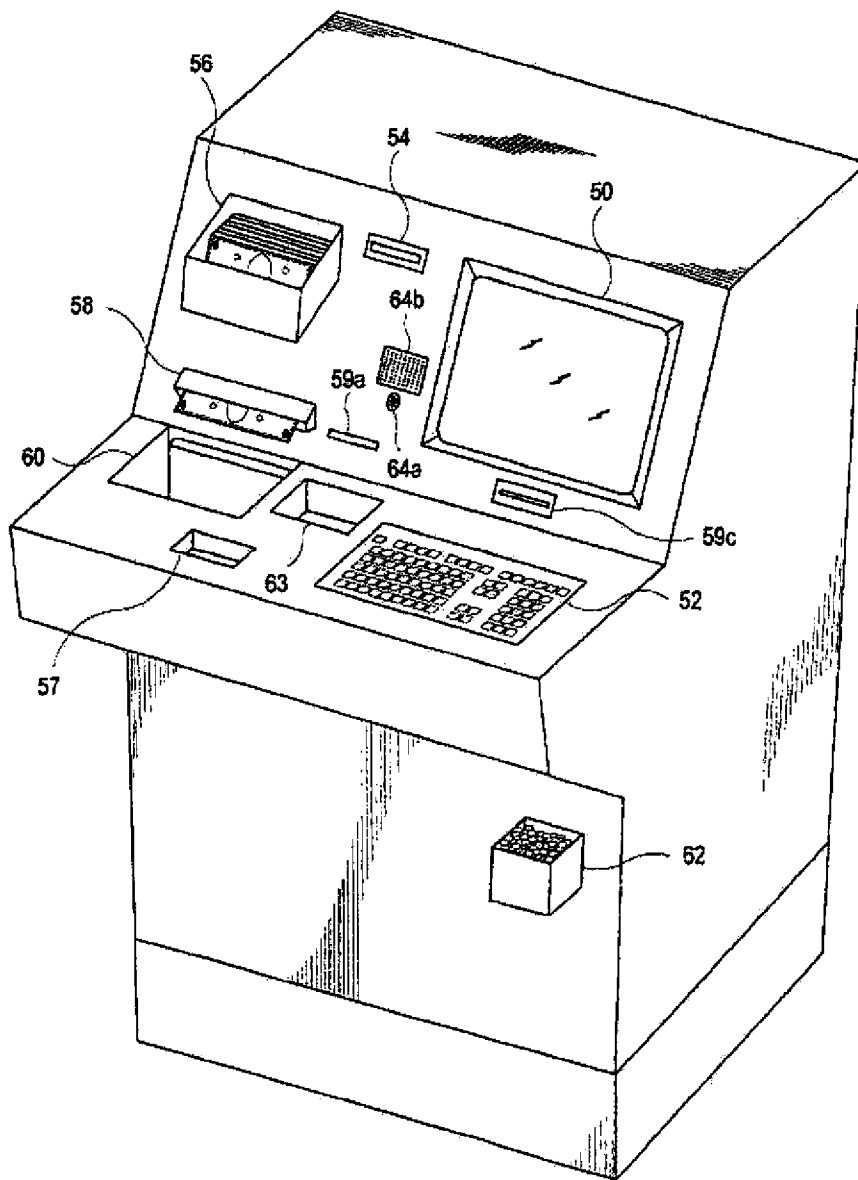
FIG. 1b

The above depicted device is obviously not a vending machine for vending items such as beverages and snacks. The description of Fig. 1b provides:

> As illustrated in FIGS. 1a and 1b, a user deposits bills or documents into an input receptacle 16. ... A transport mechanism 18 transports the documents from the input receptacle 16 past a full image scanner 12, as the documents are illuminated by a light (not shown). The full image scanner 12, described in greater detail below, scans the full image of the document, recognizes certain fields within the document, and processes information contained within these fields in the document. For example, the full image scanner 12 may search for the serial number field when processing U.S. currency,

determine the serial number once the field is located, and store the serial number for later use by the system. ...

Next, the transport mechanism 18 transports the document past a discrimination and authentication unit 14 which is also described in greater detail below. The discrimination and authentication unit 14 authenticates the document and, in the case of a bill, determines the denomination of the bill. On other documents, such as checks, the system may capture information such as the check amount, account number, bank number, or check number. The discrimination and authentication unit 14 also directs the transport unit 18 to place the document in the output receptacle 20 as described below.

A dispensing unit 22 dispenses funds to a user. For example, when the user is depositing currency in an account, the system has the capability to return all or part of a deposit back to the user in the form of bills, coins, or other media via the dispensing unit 22. The amount of payback to the user may be supplemented by funds from other accounts, as well, as described below. The dispensing unit 22 is capable of accepting a variety of media including money orders, smart cards, and checks and may include separate units directed to accepting a particular type of media.

A controller 10 manages the operation of the system. The controller 10 directs the flow of documents from the input receptacle 16 through the transport mechanism 18, past the full image scanner 12 and the discrimination and authentication unit 14, and into the output receptacle 20. The transport mechanism directs the documents through the system such that the documents are scanned either along their wide dimension as shown in FIG. 1m. Alternatively, the documents are passed through the system such that they are scanned along their narrow dimension as shown in FIG. 1n. The controller 10 also directs the dispensing unit 22 to dispense funds to the user and routes information from the full image scanner 12 and the discrimination and authentication unit 14 to an interface 24 which communicates with an outside accounting system or central office. The controller is also capable of directing information from the outside office through the interface and to a communications panel 26. Finally, the controller 10 selectively processes information from the full image scanner 12 and the discrimination and authentication unit 14 for use by the system.

Jones at 5:47 – 6:51.

As compared to the present independent claims, **Jones** is not a vending machine having a vending machine controller running a standard program that allows receipt of at most a five dollar bill and the payout of coins as change.

Jones does not disclose a bill acceptor-dispenser having a program receiving as an input a signal from the validator indicative of the actual denomination of the note received and a signal from the vending machine controller indicative of the amount of change to be dispensed as coins by the coin acceptor/changer, the processor then determining the amount of change to be dispensed as coins and the amount to be dispensed as paper currency and outputting a control signal indicative of the notes to be dispensed by the bill acceptor-dispenser which controls the disbursement of currency and a signal to the coin acceptor/changer indicative of the amount of

coins to be dispensed for the completion of a vending transaction as generally required by claims 1, 18 and 19.

Jones does not disclose that the processor communicating with the vending machine controller provides a signal indicative of a five dollar note to the vending machine controller upon receipt of a note having a denomination greater than five dollars as required by claim 1.

Jones does not disclose a Control Program controlling the validation, acceptance and recognition of second value notes up to a second value exceeding said first value and for controlling the denominations of notes to be accepted by said bill acceptor-dispenser based upon the availability of notes held in a dispensable fashion and receiving as an input a signal indicative of the actual denomination of the note received and a signal from said vending machine controller indicative of the amount of change to be dispensed as coins by said coin acceptor/changer, the Control Program then determining the amount of change to be dispensed as coins and the amount to be dispensed as paper currency and outputting a control signal indicative of the notes to be dispensed by the bill acceptor-dispenser which controls the disbursement of currency and a signal to the coin acceptor/changer indicative of the amount of coins to be dispensed by the vending machine for the completion of a vending transaction as generally required by claims 20.

Ramachandran

Ramachandran indicates that while certain types of devices including vending machines may benefit from a bill dispensing ATM device, they have not been included in such devices for several reasons including the fact that cash dispenser are expensive, vending machines do not have the security features of an ATM machine. In the detailed description of the invention portion of Ramachandran, the patent discloses that the exemplary embodiment is an ATM the primary purpose of which is to receive and dispense currency. **Ramachandran** then mentions, but does not detail incorporation of his device into other devices such as check cashing, vending and medication machines. **Ramachandran** does not disclose anything about the standard operating parameters of a vending machine. **Ramachandran** does not disclose the elements discussed above that are missing in the primary reference **Jones**.

Partyka,

Partyka is generally directed to a monitoring system that collects data from a number of vending machines relating to the products that are being sold. The data is used by a supply company to know when and what products need to be replaced in the various vending machines.

The Examiner indicates that "Partyka discloses that the note validator (14) controls a coin changer (12)." The only comment in **Partyka** that may lend support to the Examiner's position is the indication in **Partyka** that "Bill validator 14 is configured to accept bills from a customer or purchaser. Bill validator 14 provides an output signal to coin changer 12 in response to receiving a valid bill." By this disclosure, the bill validator 14 is not controlling the coin changer 12, it is merely providing a signal indicative of the value of a note it has taken in.

There is no disclosure in **Partyka** suggesting that the bill validator 14 controls the dispensing of change from the coin changer 12 or that there may be a note/bill dispenser that can provide currency as change for a vending transaction. **Partyka** does not disclose the elements discussed above that are missing in the primary reference **Jones**.

Morun

The Examiner indicates that **Morun** "discloses that the note validator (340) and bill escrow and payout unit (115) and coin changer are operated to provide change from inserted bills or coins after vending transaction has been processed." Even by the foregoing it is apparent that the note validator (340) and bill escrow and payout unit (115) are two separate devices as opposed to the integrated note acceptor-dispenser of the claims.

In addition, in describing Fig. 2, **Morun** discloses: "The bill validator 100, coin mechanism 110, bill escrow and payout unit 115, card acceptor 70, keypad 90 and display 95 are connected to a vend controller 130 by communication lines 140." **Morun** further discloses with respect to Figure 5 the detailed operation of the vend controller 130, which controls all functions of the entire device. The **Morun** device does not address the concept of the present invention which is directed to a vending machine having a standardized VMC that is not capable of recognizing a bill having a denomination greater than five dollars and which only controls dispensing coins as change. In such a vending machine, to allow the dispensing of notes as change the change dispense signal from the VMC must be rerouted to the note acceptor-dispenser so that the processer claimed by the Applicant establishes the amount of the payout

instruction taking into consideration if the received note had a value in excess of five dollars and determines if the payout should be made at least in part by dispensing a bill from the note hopper. While **Morun** addresses vending machines, it does not teach the missing limitations of the claims that are clearly not contemplated by the ATM devices of the primary reference. **Morun** does not disclose the elements discussed above that are missing in the primary reference **Jones**.

Deaville

Deaville is directed to a bezel for a bill and coin acceptor, as well as a card reader, for a vending machine. Generally, the bezel is the only portion of such a device that protrudes through or is exposed in the door of the vending machine. **Deaville** also depicts the bill validator and coin mechanism components. However, in discussing the operation, **Deaville** states:

> "Any change resulting from the transaction may be paid back to the customer through the coin return opening 80 or be credited by a card reader to an inserted electronic purse device. Details concerning money validation, card validation, establishing credit, dispensing products, paying out change, and other such vending machine functions are beyond the scope of this application and will thus not be discussed herein."

Deaville at 3:6-13. Thus, **Deaville** certainly does not disclose the concepts of the claims of the present application as it expressly indicates that the details of establishing credit and paying out change are outside the scope of the application.

The examiner indicates that **Deaville** discloses placing a bill acceptor/dispenser (60) disposed in the opening formerly receiving the bill validation device. That is a misstatement as **Deaville** does not disclose a note or bill **dispenser** at all. The component identified as item 60 is the bill entryway (60) to the validator (100). The device behind the door in **Deaville** is merely a good example of the device being replaced in the applicants' method and system. **Deaville** does not disclose the elements discussed above that are missing in the primary reference **Jones**.

Katou

The Examiner contends that the ATM device of **Katou** discloses a vending machine in the form of automated teller machine (101), having a note acceptor-dispenser (1), a bill discriminator (30), a note box (60), a note hopper (40) that temporarily stores said notes, and a

transportation unit (501, 502, 503, 504) in a combination such that said notes are transported to either a note box, a temporary storage or escrow box, or through the bill discriminator. The Examiner thus maintains that the transport mechanism of **Katou** could be added to the transport mechanism of **Jones** to prevent jamming of notes. The Examiner also states, without citing a reference, that it would be obvious to provide closed note boxes or cassettes or magazines in **Jones**.

Initially, Applicants maintain that the ATM device of **Katou** is not a vending machine. By the amendments to the claims herein, it becomes more apparent that a vending machine is distinct from an ATM machine. The ATM device of **Katou** does not disclose routing the change dispense output signal from the vending machine controller intended for the coin acceptor/changer to the processor of the note acceptor-dispenser or that the processor includes a program to determine the coin and paper currency dispense instruction and determines if the payout should be made at least in part by dispensing a bill from the note hopper.

Further, the ATM device of **Katou** does not disclose providing a vending machine controller in the vending machine for controlling the operation of the vending machine based on a vending machine protocol program capable of receiving at most a five dollar denomination bill and provide only coins as change to complete any vending transaction. **Katou** does not disclose the elements discussed above that are missing in the primary reference **Jones**.

Pope

Pope is directed to a coin mechanism 110 for a vending machine that can accommodate multiple denominations of coins, convert the values to a selected base value to vend products, and dispense the approximately correct amount of change. The most detailed drawing of the device at the heart of the Pope disclosure is Fig. 3, reproduced below:
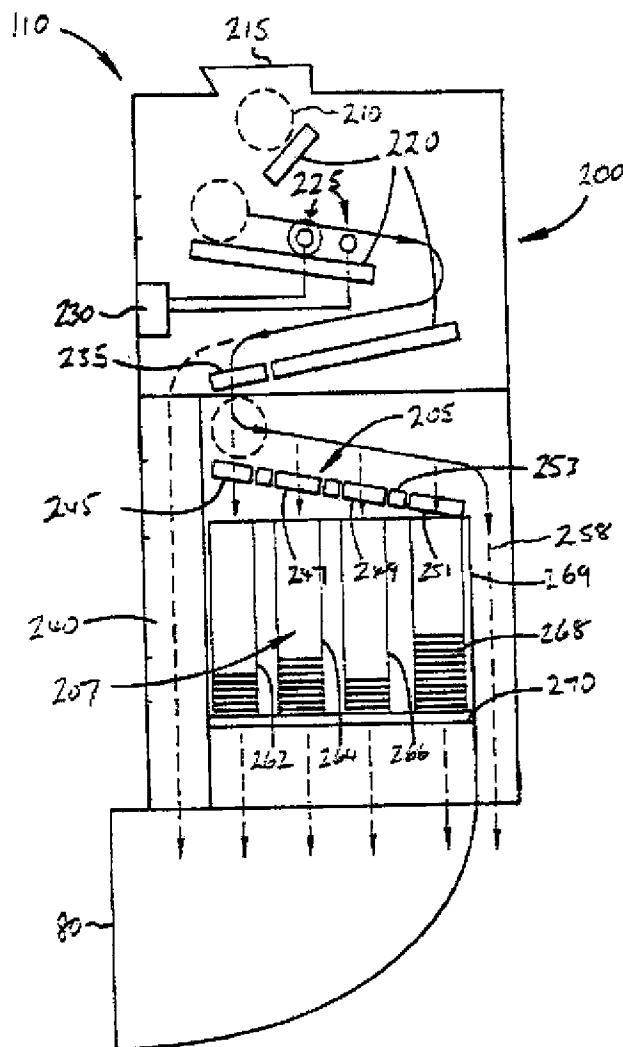
FIG. 3

In discussing the operation of the coin mechanism 110 of Fig. 3, **Pope** indicates in part:

> [0029]Referring to FIG. 3, coin mechanism 110 comprises a coin validator 200, a coin separator 205 and a coin storage region 207. The coin validator 200 receives inserted coins 210 through an opening 215 which is connected to the coin passageway 117 of FIG. 2. The coin 210 travels along ramp 220 in the coin validator 200 past sensors such as those shown at 225.
>
> [0029] The sensors 225 generate electrical signals which are provided to a coin mechanism processor 230 such as a microprocessor or microcontroller.

Pope ¶ ¶ 28, 29. **Pope** does not detail the operation of the bill validator 100 other than by indicating it may be a standard device. **Pope** does indicate, however, that the device may include a bill escrow and payout unit 115:

> [0024] ...A bill escrow and payout unit 115 is positioned adjacent the bill payout recess 85 and is connected to the bill validator 100. The bill escrow and payout unit 115 is

capable of dispensing bills as change through the bill payout recess 85. The bill validator 100 may divert deposited acceptable bills to the bill escrow and payout unit 115 to replenish its supply of bills for change. Suitable bill escrow and payout units 115 include those disclosed in U.S. Patent No. 5,076,441, as well as others well-known in the art. A cash box 120 is also included in the vending machine 1.

[0025] The bill validator 100, coin mechanism 110, bill escrow and payout unit 115, card acceptor 70, keypad 90 and display 95 are connected to a vend controller 130 by communication lines 140. The controller 130 is further connected to data input/output devices 135, such as DIP switches 150, a keypad 160, an input/output port 170 and a display 180 to facilitate entering and updating of operating data and servicing of the vending machine 1. The components disposed behind the control panel 40 are not accessible to customers of the vending machine 1 and may only be accessed by service personnel.

[0026] The controller 130 may be of a well known type, and may be arranged to receive various items of information from the bill validator 100 and coin mechanism 110 via the communication lines 140. In particular, each time an acceptable unit of money is validated by either the bill validator 100 or the coin mechanism 110, a signal is sent to the vend controller indicating the value of the received unit.

Pope ¶ 24-26. The foregoing is the only discussion of the bill validator 100 and bill escrow and payout unit 115 provided in the **Pope** disclosure. The primary focus of the **Pope** reference is the logic program depicted in the flow chart of Fig. 4 for the processor 230 of the coin mechanism 110, which allows the **Pope** device to accept multiple denominations of coins and dispense coins as change. There is no additional disclosure of dispensing notes as change other than as set forth above. There is no indication in **Pope** that the vending machine controller is incapable of accepting a note denomination greater than five dollars, or that it can only signal the dispensing of coins as change. Indeed, it appears that the device of **Pope** contemplates having the processor 230 of the coin mechanism 110 control all of the transaction operations. The Applicant's thus submit that **Pope** does not disclose the elements discussed above that are missing in the primary reference **Jones**. Further, Applicant's submit that the teaching of **Jones** is both dramatically different from and in conflict with the concepts of **Pope** that attempting to incorporate selected elements of **Pope** into **Jones** would render **Jones** unacceptable for its intended use as a high speed highly accurate bill validation system for an ATM.

Based on the Examiner's rejections and the above discussion of the independent claims as amended, Applicant's respectfully submit that no reasonable reading or combination of the prior art would lead a person skilled in the art to foresee the modification of a vending machine operating on a protocol that precludes receiving anything greater than a five dollar bill with a note acceptor – dispenser having all of the capabilities provided for in the claims. None of the references discuss a vending machine controller protocol program allowing said vending machine to receive at most a five dollar denomination bill. None of the references discuss a processor for receiving the validator signals and communicating with the vending machine controller a signal indicative of the denomination of each received one dollar or five dollar note, and for communicating a signal indicative of a five dollar note to the vending machine controller upon receipt of a note having a denomination greater than five dollars. None of the references discuss programming the processor of the bill acceptor-dispenser with a program receiving as an input a signal from said validator indicative of the actual denomination of the note received and a signal from the vending machine controller indicative of the amount of change to be dispensed as coins by said coin acceptor/changer, the processor then determining the amount of change to be dispensed as coins and the amount to be dispensed as paper currency. Since these features are not discussed in the various references, there is no factual basis to maintain the obviousness rejection.

Rejections based on 35 U.S.C. § 103 must rest on a factual basis. In *KSR Int. Inc. v. Teleflex, Inc.*, 550 U.S. 398, 127 S.Ct. 1727 (2007), the Court stated that "it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements in the way the claimed new invention does." *Id.* at 1740-41. "To facilitate review, this analysis should be made explicit." *Id.* In making an obviousness rejection, the examiner has the initial duty of supplying the requisite factual basis and may not, because of doubts that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in the factual basis. *In re Warner*, 379 F.2d 1011, 1017 (CCPA 1967). An Examiner is not free to merely assume that certain components or features are inherent in a prior art disclosure. Inherency "may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. *In re Oelrich*, 666 F.2d 578, 581 (CCPA 1981). *See also Ex parte Skinner*, 2 USPQ 2d 1788, 1789 (BPAI 1986) ("[T]he examiner must provide some evidence or scientific

reasoning to establish the reasonableness of the examiner's belief that the functional limitation is an inherent characteristic of the prior art" before the burden is shifted to the applicant to disprove the inherency.).

The foregoing comments address each of the independent claims 1, 18, 19 and 20. In addition, claims 2-5 and 9-14 are dependent claims each of which ultimately depends from independent claim 1. As Claim 1 is believed to be allowable, each of the remaining dependent claims is also believed to be allowable.

Accordingly, in view of the above amendments and remarks, applicants respectfully request that the rejections be reconsidered and that the claims, as amended, be allowed.

Please charge any deficiency in fees or credit any overpayments to Deposit Account No. 07-1896.

Respectfully submitted,

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